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Joint Modeling and Simulation System (JMASS) Program Brief

**Col Phil Faye
ESC/CXC**

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ESC's Role

- **Designated Acquisition Commander (DAC) responsibility is transferring to Electronic Systems Center, Hanscom AFB (pending formal SAF/AQ approval)**
 - **Further consolidates ESC/CC DAC Enterprise Management responsibilities--provides synergy with other existing ESC M&S programs**
 - **Joint Program Office to remain at Wright-Patterson AFB**



System Description

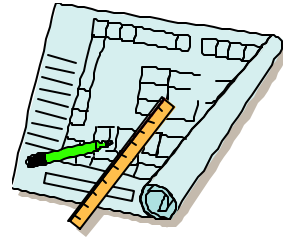
- **JMASS is an Air Force led joint program that provides an integrated systems-level software architecture product that supports DoD modeling and simulation analysis**
 - **Architecture consists of interface standards, tools and services that outline a set of guidelines for building JMASS compliant models (red, blue and environment)**
 - **Provides standard structure for designing and executing simulations and their component models**



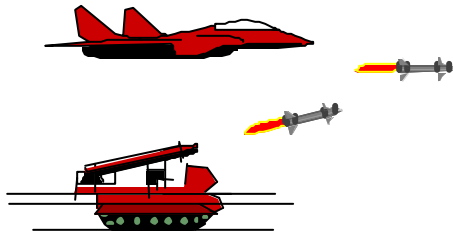
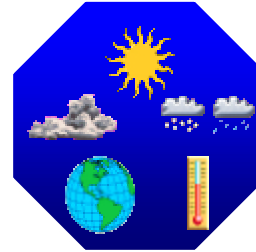
System Description

The JMASS System

Legacy Model
Functions



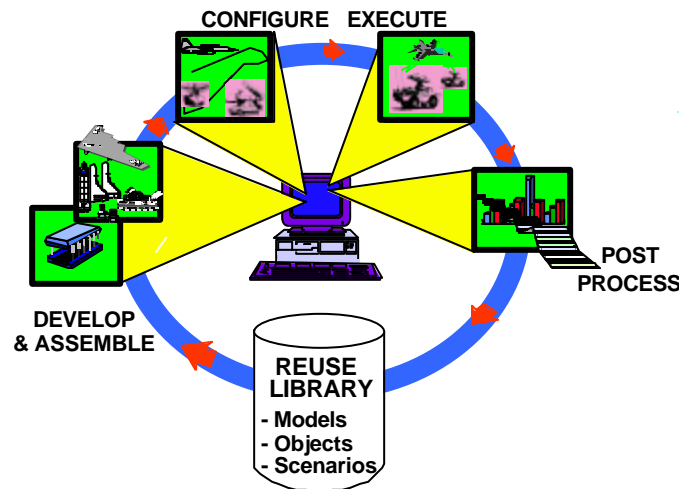
Environments



Red Threat
Models



Blue Models



JMASS architecture facilitates model development & simulation configuration/execution



Benefits of JMASS

- **Fosters greater model reuse and interoperability**
 - Models interchangeable across joint warfare domains
 - Changes to one model do not impact validity of other models in same simulation
 - Allows multiple model fidelity levels with consistency throughout
- **DIA-validated threat models available**

No other COTS/GOTS software package meets the JMASS requirements



Program Status

“Quick Look”

- **JMASS 5.1 final delivery--Jun 01**
 - Incorporates high fidelity RF environment, real time execution on SGI platform
 - Supports Initial Operational Capability (IOC) demonstrations (Jun-Sep 01)
 - Tri-Service weapon system engagement scenarios using JMASS-compliant Blue and DIA-validated threat models
 - HLA interoperability patch available Jul 01
- **JMASS contracts awarded Dec 00 to deliver final two architecture releases (JMASS 6.0/7.0). Includes:**
 - Distributed processing
 - Generic real-time scheduler for use on all platforms
 - Generic Electronic Countermeasures player
 - N-point scatter in the RF environment
 - 2D/3D contour maps for terrain, atmosphere and ocean data
 - Multiple usability enhancements

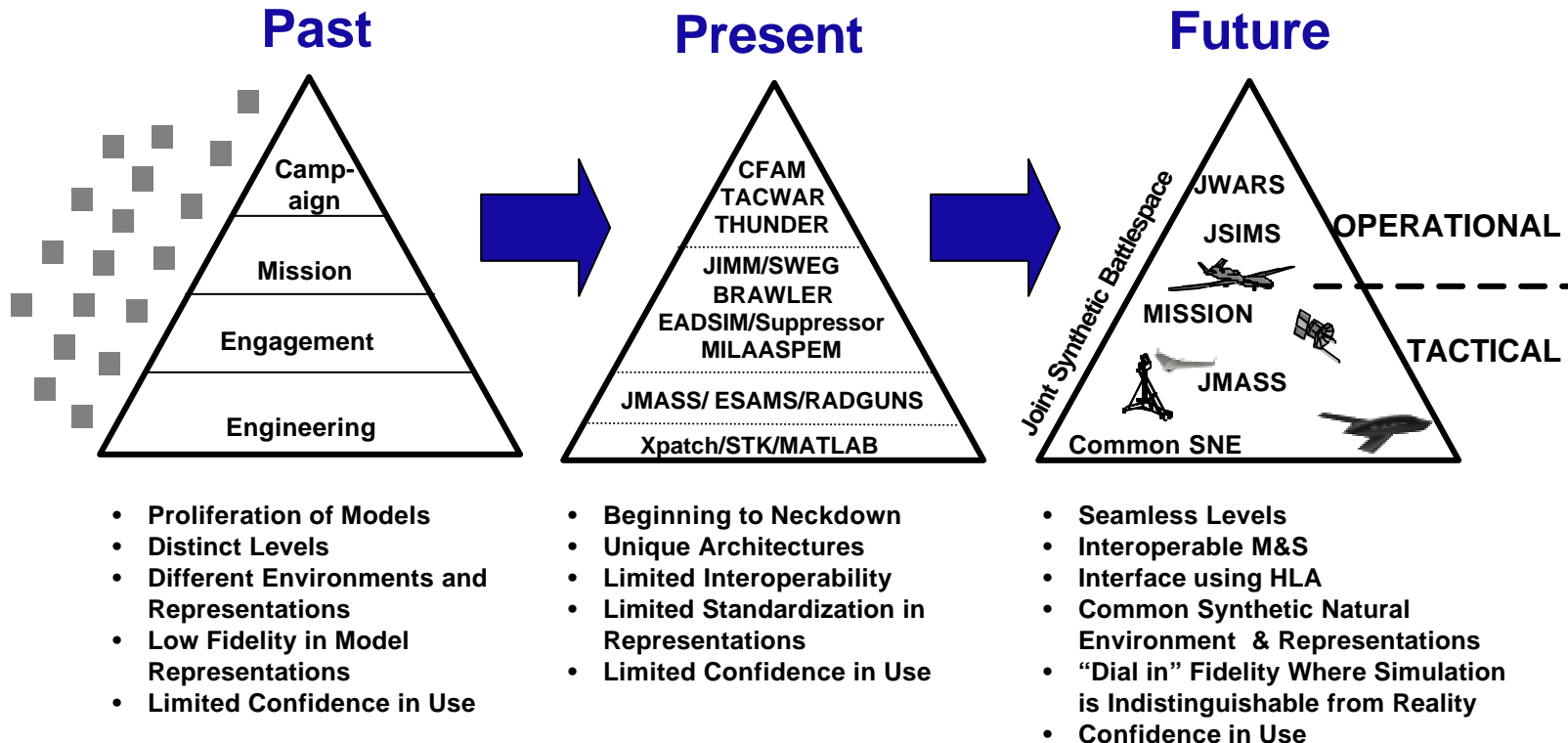


JMASS Users

- **Analysts**
- **Model Developers (Red, Blue, Environment)**
- **Open Air Ranges (China Lake, Edwards, Eglin)**
- **Several System Program Offices**
- **IOC Test Sites (AF, Army, and Navy)**
- **Contractors (Architecture, Tools, Models)**



M&S of Tomorrow



The M&S of Tomorrow is Moving Toward a Single Architecture With A Commonly Defined Synthetic Environment, Representations, and Scenarios That Allows Seamless Analyses Across the Full System Acquisition Life Cycle

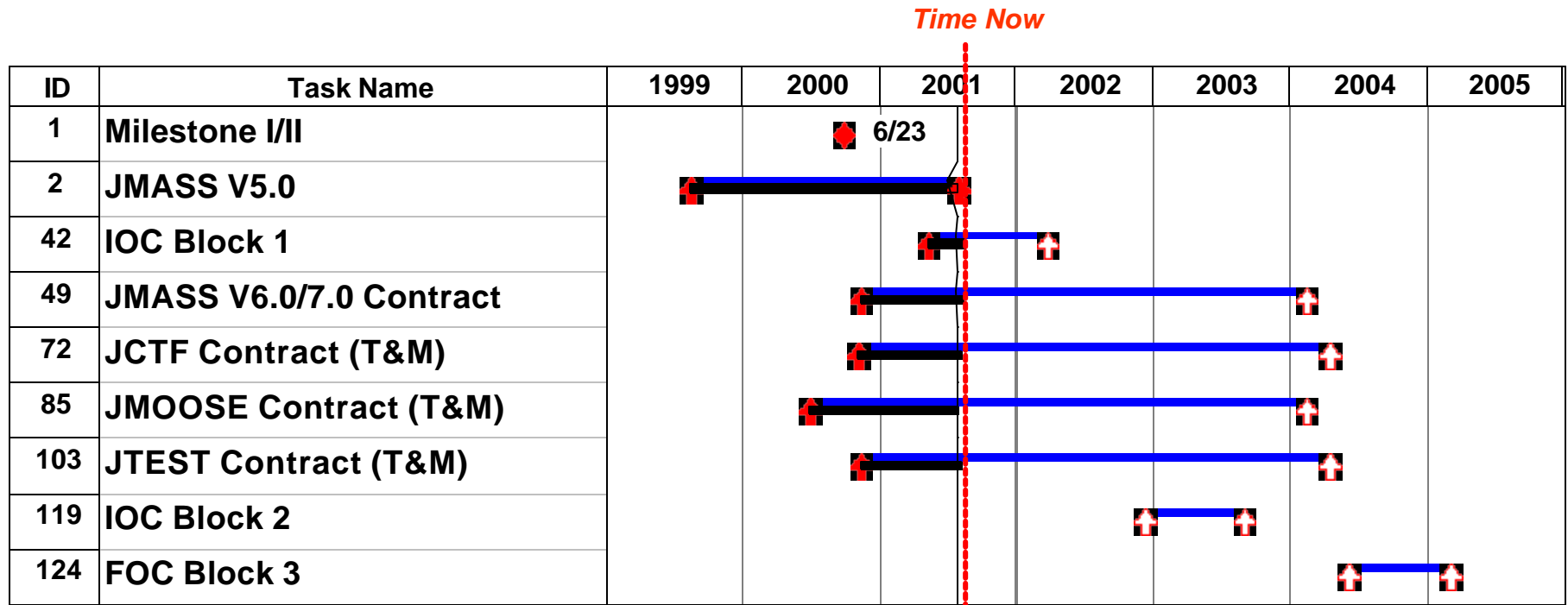


BACKUP



Program Status

Schedule (FY)



- IOC Block 1 decision - Dec 01
- IOC Block 2 decision - May 03
- V 6.0 release - Sep 02
- V 7.0 release - Dec 03
- FOC Block 3 decision - Nov 04



DIA Threat Models

- **MSIC**
 - 17 RF SAMs (analytic and EC-capable)
 - SA-2, SA-3, SA-5, SA-6, SA-8, SA-10, SA-11, SA-12, SA-15, SA-20, ROLAND II
 - IR SAM (SA-7) in development
- **NAIC**
 - Su-27, MiG-29, Rafale and associate radars and air-air missiles
- **ONI**
 - Anti-ship missile
- **NGIC**
 - ZSU 23-4